



INFORMATION DISCLOSURE STATEMENT  
(Use several sheets if necessary)

APPLICANT: Tsien et al.

FILING DATE:  
September 13, 1999GROUP:  
1655

## U.S. PATENT DOCUMENTS

*EXAMINER INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE
HRC	5,614,191	03/25/97	Puri et al.	424	178.1	

RECEIVED

FEB 10 2003

## FOREIGN PATENT DOCUMENTS

TECH CENTER 1600/2900

*EXAMINER INITIAL		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION	
							YES	NO
HRC	F1	WO 91/01305	02/07/91	PCT	—	—		
	F2	WO 95/07463	03/16/95	PCT	—	—		
	F3	WO 95/21191	08/10/95	PCT	—	—		
	F4	WO 97/11094	03/27/97	PCT	—	—		
	F5	WO 97/28261	08/07/97	PCT	—	—		

## OTHER PUBLICATIONS (including Author, Title, Date, Pertinent Pages, Etc.)

HRC	D1	Ward et al., An Energy transfer protein in cocenterate bioluminescence. Characterization of the Renilla green fluorescent protein. J. Biol. Chem. 254 no 3 (1979) 781-788
	D2	Geoghegan et al., Site directed double fluorescent tagging of human renin and collagenase (MMP-1) substrate peptides using the periodate oxidation of N-terminal serine. An apparently general strategy for provision of energy transfer substrates for proteases. Bioconjugate Chemistry 4 no 6, (1993) 537-544
	D3	Wu et al. Resonance energy transfer: Methods and applications. Analytical Biochemistry 218, 1194, p1-13 Academic press Inc., Duluth, NM
	D4	Inouye and Tsuji, Expression of the gene and fluorescence characteristics of the recombinant proteins. FEBS Letters 341:277-280 (1994)
	D5	Mitra et al., Fluorescence resonance energy transfer between blue emitting and red-shifted excitation derivatives of the green fluorescent protein. Gene, 173:13-17 (1996)

EXAMINER

A. Robinson

DATE CONSIDERED

5/24/04

\* EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609: Draw line through citation if not in conformance and not considered. Include a copy of this form with the next communication to applicant.

SUBSTITUTE FORM PTO-1449  
(MODIFIED)U.S. DEPARTMENT OF COMMERCE  
PATENT AND TRADEMARK OFFICEATTY. DOCKET NO.  
07257/041001SERIAL NO.  
08/792,553

10/057/05

INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT  
(Use several sheets if necessary)APPLICANT:  
Roger Y. Tsien et al.FILING DATE  
01/31/97GROUP  
1815

(37 CFR 1.98(b))

FEB 07 2003

## U.S. PATENT DOCUMENTS

EXAMINER INITIAL	PATENT NUMBER	ISSUE DATE	PATENTEE	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
AA	5 4 9 1 0 8 4	02/13/96	Chalfie	435	189	
AB	5 2 6 4 5 6 3	11/23/93	Huse	536	25.3	
AC	5 6 2 5 0 4 8	04/29/97	Tsien et al.	536	23.4	
AD	4 3 1 4 9 3 6	02/09/82	Yaron et al.	260	112.5	
AE	5 6 0 2 0 2 1	02/11/97	Davis et al.	435	219	
AF	5 5 9 9 9 0 6	02/04/97	Dasmahapatra	530	350	
AG	5 6 0 5 8 0 9	02/25/97	Komoriya et al.	435	23	

## FOREIGN PATENT OR PUBLISHED FOREIGN PATENT APPLICATION

	DOCUMENT NUMBER	PUBLICATION DATE	COUNTRY OR PATENT OFFICE	CLASS	SUBCLASS	TRANSLATION	
						YES	NO
AH	WO 94/28173	12/08/94	PCT				
AI	WO 96/13607	05/09/96	PCT				
AJ	WO 94/28166	12/08/94	PCT				
AK	WO 96/23810	08/08/96	PCT				
AL	WO 96/23898	08/08/96	PCT				
AM	WO 96/27675	09/12/96	PCT				
AN	WO 96/27027	09/06/96	PCT				
AO	0 428 000 A1	05/22/91	EPO				

## OTHER DOCUMENTS (including Author, Title, Date, Place of Publication)

AP	Cody et al., "Chemical Structure of the Hexapeptide Chromophore of the <i>Aequorea</i> Green-Fluorescent Protein", <i>Biochemistry</i> , 1993, 32, pp. 1212-1218
AQ	Ward et al., "Reversible Denaturation of <i>Aequorea</i> Green-Fluorescent Protein: Physical Separation and Characterization of the Renatured Protein," <i>Biochemistry</i> , 1982, 21, pp. 4535-4540
AR	Surpin et al., "Reversible Denaturation of <i>Aequorea</i> Green Fluorescent Protein-Thiol Requirement," <i>Photochem. Photobiol.</i> , 49, Abstract, 25S (1989)
AS	Muhlrad et al., "A Rapid Method for Localized Mutagenesis of Yeast Genes," <i>Yeast</i> , 8, pp. 79-82 (1992)
AT	Ward, "Properties of the Coelenterate Green-Fluorescent Proteins", <i>Bioluminescence and Chemiluminescence</i> , (eds. DeLuca, M.A. & McElroy, W.D.) 235-242 (Academic Press, New York 1981)

EXAMINER

DATE CONSIDERED

EXAMINER: Initial citation considered. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

SUBSTITUTE FORM PTO-1449

U.S. DEPARTMENT OF COMMERCE  
PATENT AND TRADEMARK OFFICEATTY. DOCKET NO.  
07257/041001

SERIAL NO.

08/792,353

1010571305

INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT

(Use several sheets if necessary)

APPLICANT:

Tsien et al.

RECEIVED

FILING DATE

01/31/97

FEB 10 2003

GROUP

1815

U.S. PATENT DOCUMENTS

TECH CENTER 1600/2900

EXAMINER INITIAL	PATENT NUMBER	ISSUE DATE	PATENTEE	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
---------------------	---------------	---------------	----------	-------	----------	-------------------------------

## FOREIGN PATENT OR PUBLISHED FOREIGN PATENT APPLICATION

DOCUMENT NUMBER	PUBLICATION DATE	COUNTRY OR PATENT OFFICE	CLASS	SUBCLASS	TRANSLATION YES NO
-----------------	---------------------	-----------------------------	-------	----------	-----------------------

## OTHER DOCUMENTS (including Author, Title, Date, Place of Publication) Continued

AX	AU	Ehrig et al., "Green-fluorescent protein mutants with altered fluorescence excitation spectra", (1995) <u>FEBS Letters</u> , 367(2) pp. 163-166
	AV	Delagrave et al., "Red-Shifted Excitation Mutants of the Green Fluorescent Protein", <u>Bio/Technology</u> , 13:151-154 (1995)
	AW	Kain et al., "Green Fluorescent Protein as a Reporter of Gene Expression and Protein Localization," <u>BioTechniques</u> , 19(4): pp. 650-655 (1995)
	AX	Cubitt et al., "Understanding, improving and using green fluorescent proteins, <u>TIBS</u> , (1995) 20:448-455
	AY	Kemp et al., "Protein kinase recognition sequence motifs," <u>Trends Biochem. Sci.</u> , 15:342-346 (1990)
	AZ	Songyang et al., "Use of an oriented peptide library to determine the optimal substrates of protein kinases", <u>Current Biology</u> , 4:973-982 (1994)
	BA	Colbran et al., "A Phenylalanine in Peptide Substrates Provides for Selectivity between cGMP- and cAMP-dependent Protein Kinases," <u>J. Biol. Chem.</u> , 267:9589-9594 (1992)
	BB	Graff et al., "Protein Kinase C Substrate and Inhibitor Characteristics of Peptides Derived from the Myristoylated Alanine-rich C Kinase Substrate (MARCKS) Protein Phosphorylation Site Domain", <u>J. Biol. Chem.</u> , 266:14390-14398 (1991)
	BC	Lee et al., "A requirement of hydrophobic and basic amino acid residues for substrate recognition by Ca <sup>2+</sup> /calmodulin-dependent protein kinase Ia," <u>Proc. Natl. Acad. Sci., USA</u> , 91:6413-6417 (1994)
	BD	Stokoe et al., "The Substrate Specificity and Structure of Mitogen-Activated Protein (MAP) Kinase-Activated Protein Kinase-2", <u>Biochem. J.</u> , 296:843-849 (1993)
	BE	Cheng et al., "Use of green fluorescent protein variants to monitor gene transfer and expression in mammalian cells," <u>Nature Biotechnology</u> , 14:606-609 (1996)
	BF	Heim et al., "Engineering green fluorescent protein for improved brightness, longer wavelengths and fluorescence resonance energy transfer," <u>Current Biology</u> , 6(2):178-182 (1996)
	BG	Yaron et al., "Intramolecularly Quenched Fluorogenic Substrates for Hydrolytic Enzymes," <u>Analytical Biochemistry</u> , 95, 228-235 1979
	BH	L. Stryer, "Fluorescence Energy Transfer As A Spectroscopic Ruler," <u>Ann. Rev. Biochem.</u> , 1978, 47:819-46
✓	BI	Ward et al., "Spectral Perturbations of the <i>Aequorea</i> Green-Fluorescent Protein, <u>Photochem. Photobiol.</u> , 1982, 35:803-808

EXAMINER

DATE CONSIDERED

EXAMINER: Initial citation considered. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

SUBSTITUTE FORM PTO-1449

U.S. DEPARTMENT OF COMMERCE  
PATENT AND TRADEMARK OFFICEATTY. DOCKET NO.  
07257/041001

SERIAL NO.

00/792,553 10/05/15

INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT

(Use several sheets if necessary)

APPLICANT:  
Tsien et al.FILING DATE  
01/31/97

GROUP

1015

FEB 10 2003

HIGH CENTER 1600/2900

## U.S. PATENT DOCUMENTS

EXAMINER INITIAL	PATENT NUMBER	ISSUE DATE	PATENTEE	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
FOREIGN PATENT OR PUBLISHED FOREIGN PATENT APPLICATION						
	DOCUMENT NUMBER	PUBLICATION DATE	COUNTRY OR PATENT OFFICE	CLASS	SUBCLASS	TRANSLATION YES NO

## OTHER DOCUMENTS (including Author, Title, Date, Place of Publication) Continued

BJ	Levine et al., "Isolation and Characterization of a Photoprotein, "Phialidin", and a Spectrally Unique Green-Fluorescent Protein from the Bioluminescent Jellyfish <i>Phialidium Gregarium</i> ", <u>Comp. Biochem. Physiol.</u> , 1982, 72B:77-85
BK	Matayoshi et al., "Novel Fluorogenic Substrates for Assaying Retroviral Proteases by Resonance Energy Transfer", <u>Science</u> , 1990, 247:954
BL	Baldwin et al., "Cloning and Expression of the luxY Gene from <i>Vibrio fischeri</i> Strain Y-1 in <i>Escherichia coli</i> and Complete Amino Acid Sequence of the Yellow Fluorescent Protein," <u>Biochemistry</u> , 1990, 29:5509-15
BM	Blondel et al., "Engineering the quaternary structure of an exported protein with a leucine zipper," <u>Protein Engineering</u> , 1991, 4:457-461
BN	Prasher et al., "Primary Structure of the <i>Aequorea victoria</i> green-fluorescent protein," <u>Gene</u> , 1992, 111:229-233
BO	Tsien et al., "FRET for studying intracellular signalling," <u>Trends Cell Biol.</u> , 1993, 3:242-245
BP	Wilbanks et al., "Rod Structure of a Phycoerythrin II-containing Phycobilisome," <u>J. Biol. Chem.</u> , 1993, 268:1226-35
BQ	Dunn et al., "Subsite Preference of Retroviral Proteinase," <u>Meth. Enzymol.</u> , 1994, 241:254
BR	Hardy et al., "Amyloid Protein Precursor in Development, Aging, and Alzheimer's Disease," ed., C.L. Masters et al., pp. 190-198
BS	Norris et al., "Nucleotide sequence of a cDNA clone encoding the precursor of the peridinin-chlorophyll a-binding protein from the dinoflagellate <i>symbiodinium</i> sp.," <u>Plant Molecular Biology</u> , 1994, 24:673-77
BT	Krafft et al., "Synthetic approaches to continuous assays of retroviral proteases," <u>Methods Enzymol.</u> , 1994, 241:70-86
BU	Heim et al., "Wavelength mutations and posttranslational autooxidation of green fluorescent protein," <u>Proc Natl Acad Sci, USA</u> , 1994, 91:12501-12504
BV	Chalfie et al., "Green Fluorescent Protein as a Marker for Gene Expression," <u>Science</u> , 1994, 263:802-805
BW	Seidah et al., "Pro-Protein Convertases of Subtilisin/Kexin Family," <u>Meth. Enzymol.</u> , 1994, 244:175
BX	Smith et al., "Purification and Kinetic Characterization of Human Cytomegalovirus Assemblin.," <u>Meth. Enzymol.</u> , 1994, 244:412
BY	Thornberry, "Interleukin-1 $\beta$ Converting Enzyme," <u>Meth. Enzymol.</u> , 1994, 244:615
BZ	Bowyer et al., "Leishmanolysin: Surface Metalloproteinase of <i>Leishmania</i> ," <u>Meth. Enzymol.</u> , 1995, 248:614

EXAMINER

DATE CONSIDERED

EXAMINER: Initial citation considered. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

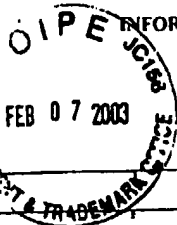
Sheet 4 of 4

SUBSTITUTE FORM PTO-1449 (MOBILITY)		U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE		ATTY. DOCKET NO. 07257/041001		SERIAL NO. 08/792,353 <i>10/05/95</i>	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Use several sheets if necessary)				APPLICANT: Tsien et al.			
				FILING DATE 01/31/97		GROUP 1815	
U.S. PATENT DOCUMENTS							
EXAMINER INITIAL		PATENT NUMBER	ISSUE DATE	PATENTEE	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
FOREIGN PATENT OR PUBLISHED FOREIGN PATENT APPLICATION							
		DOCUMENT NUMBER	PUBLICATION DATE	COUNTRY OR PATENT OFFICE	CLASS	SUBCLASS	TRANSLATION YES      NO
OTHER DOCUMENTS (including Author, Title, Date, Place of Publication)							
<i>4/8</i>	CA	Cubitt et al., "Understanding, improving and using green fluorescent proteins," <u>Trends Biochem Sci</u> , 1995, in press:					
	CB	Deschamps et al., "Rapid Purification of Recombinant Green Fluorescent Protein Using the Hydrophobic Properties of an HPLC Size-Exclusion Column," <u>Protein Expression and Purification</u> , 1995, 6:555-558					
	CC	Heim et al., "Improved green fluorescence," <u>Nature</u> , 1995, 373:663-664					
<i>✓</i>	CD	Knight, "Fluorimetric assays of proteolytic enzymes," <u>Methods Enzymol</u> , 1995, 248:18-34					
EXAMINER	<i>Hope Robinson</i>				DATE CONSIDERED <i>9/24/04</i>		
EXAMINER: Initial citation considered. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.							

Substitute Disclosure Form (PTO-1449)

33456

RECEIVED  
 FEB 10 2003  
 TECH CENTER 1600/2900



INFORMATION DISCLOSURE STATEMENT  
(Use several sheets if necessary)

APPLICANT: Tsien et al.

FILING DATE:  
January 31, 1997

GROUP:  
1815

U.S. PATENT DOCUMENTS

*EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE
	PI						

FOREIGN PATENT DOCUMENTS

*EXAMINER INITIAL		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION	
							YES	NO
	FI							

OTHER PUBLICATIONS (including Author, Title, Date, Pertinent Pages, Etc.)

	DI	Guiliano et al., Fluorescent Protein Biosensors: Measurement of Molecular Dynamics in Living Cells, Annual Review of Biophysics and Biomolecular Structure, 24:405 (1995).					
--	----	--	--	--	--	--	--

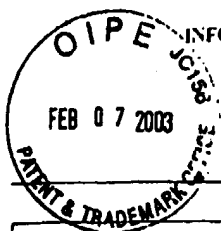
RECEIVED  
FEB 10 2003  
TECH CENTER 1600/2900

EXAMINER

DATE CONSIDERED

5/24/04

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609: Draw line through citation if not in conformance and not considered. Include a copy of this form with the next communication to applicant.



INFORMATION DISCLOSURE STATEMENT  
(Use several sheets if necessary)

APPLICANT: Tsien et al.

FILING DATE:  
January 31, 1997

GROUP:  
1815

U.S. PATENT DOCUMENTS

*EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE
	PI						

FOREIGN PATENT DOCUMENTS

*EXAMINER INITIAL		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION	
							YES	NO
	FI							

OTHER PUBLICATIONS (including Author, Title, Date, Pertinent Pages, Etc.)

<i>HA</i>	DI	Roth, Thesis from the Graduate Program in Biochemistry from Rutgers, the State University of New Jersey (October 1985)					
-----------	----	--	--	--	--	--	--

RECEIVED  
FEB 10 2003  
TECH CENTER 1600/2900

EXAMINER

*Hope Robinson*

DATE CONSIDERED

*5/24/04*

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609 Draw line through citation if not in conformance and not considered. Include a copy of this form with the next communication to applicant.